(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 174 744 A1

# (12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
**23.01.2002 Bulletin 2002/04**

(51) Int Cl.[7]: **G02B 6/38**, G02B 6/255

(21) Application number: **00402079.8**

(22) Date of filing: **21.07.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**
Designated Extension States:
**AL LT LV MK RO SI**

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## (54) Method and apparatus for splicing optical fibers

(57) A method and apparatus for aligning optical fibers for splicing utilizing a grooved holder (22) and positioning arms that engage the fiber ends (17, 18) and bring them precisely together in alignment for splicing. The grooves (24, 24', 26, 26', 28, 28') of the holder have a channel (27) extending therebetween. The precisely formed grooves (24, 24', 26, 26', 28, 28') provide X and Y alignment of the fibers in conduction with positioning arms (32, 32') having resilient pads (36, 36'). The resilient pads (36, 36') allow the positioning arms (32, 32') to frictionally engage the optical fibers (15, 16) and bring their respective ends (17, 18) into position for fusion splicing. The splicing method includes the steps of positioning fiber ends (17, 18) in aligned grooves (28, 28'), holding the fibers (17, 18) in the grooves (28, 28') with outer clamps (49, 59), allowing movement of the fibers (15, 16) thereunder, engaging fiber ends (17, 18) with positioning arms (32, 32'), bringing the fiber ends (17, 18) together utilizing the positioning arms (32, 32'), and fusing the fiber ends (17, 18) employing a $CO_2$ laser (60).

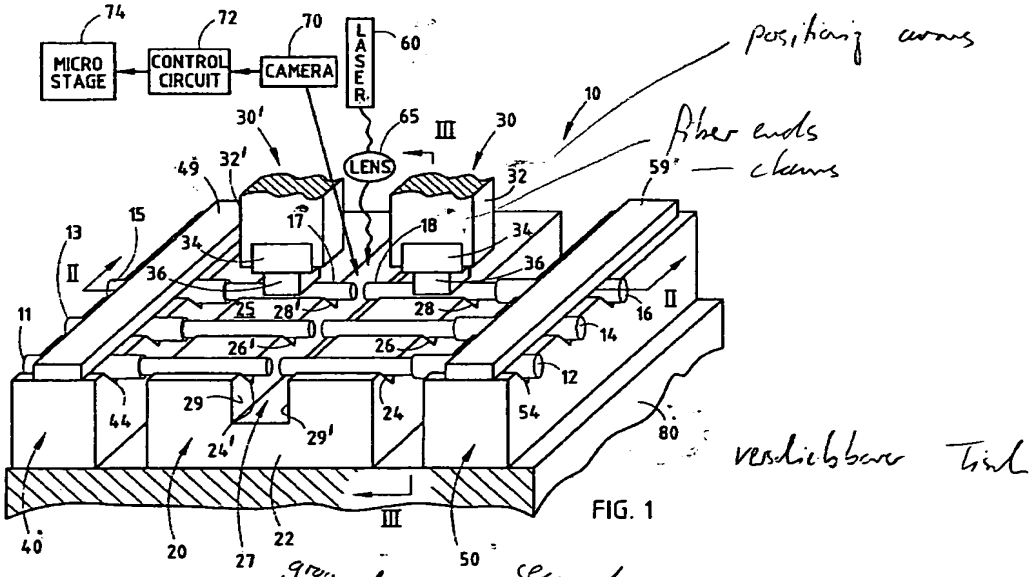


FIG. 1

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